U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ONLINE SEARCH REQUEST FORM

USER A Brown SERIAL NUMBER 278136

ART UNIT 185 PHONE 0905 DATE 1/22/90

Please give a detailed statement of requirements. Describe as specifically as possible the subject matter to be searched. Define any terms that may have special meaning. Give examples or relevant citations, authors, or keywords, if known.

You may include a copy of the broadest and or relevant claim(s).

EMBL Genbank please search bracketed sequences

STAFF USE ONLY

COMPLETED 1-25-90
SEARCHER PAC
ONLINE TIME 2151 (in minutes) TOTAL TIME 201
NO. OF DATABASES 2

SYSTEMS
____ CAS ONLINE
____ DARC/QUESTEL
____ DIALOG
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__X__ OTHER

and serotypic variants thereof, wherein said DNA is in a purified form.

2. DNA sequence as claimed in claim 1, which is free of human serum proteins, viral proteins, and nucleotide sequences encoding said proteins.

3. DNA sequence as claimed in claim 1, which is free of human tissue.

4. DNA sequence as claimed in claim 1, wherein the sequence has the formula:

GTCAGGAATGACAGGAACAAGAAAAAGAAGGAGACTTCGAAGCAAGAATGC.

5. DNA sequence as claimed in claim 1, wherein the sequence has the formula:

GCTGAGTTGGACCATCTCACAGAGAAGATCCGA.

6. DNA sequence as claimed in claim 1, wherein the sequence has the formula:

GGGGTCACTCAGTCACCACTCGTGCAA.

7. DNA sequence as claimed in claim 1, wherein the sequence has the formula:

AATGACAGGAACAAGAAAAAGAAGGAGACT.

8. DNA sequence as claimed in claim 1, wherein the sequence has the formula:

seq 1

ATGTTTGACTGTATGGATGTTCTGTCAGTGAGTCCTGGGCAAATCCTCGATTTC
TACACTGCGAGTCCGTCTTCCTGCATGCTCCAGGAGAAAGCTCTCAAAGCATGC
TTCAGTGGATTGACCCAAACCGAATGGCAGCATCGGCACACTGCTCAATCA.

9. DNA sequence as claimed in claim 1, wherein the sequence has the formula:

LAW OFFICES
FINNEGAN, HENDERSON
FARABOW, GARRETT
& DUNNER
1775 K STREET, N. W.
WASHINGTON, D. C. 20006
(202) 293-6850

CATGAACCCTTGACCCCAAGTTCAAGTGGGAACACAGCAGAGCACACTCCTAGC

ATCTCACCCAGCTCAGTGGAAAACAGTGGGGTCACTCAGTCACCACTCGTGCAA.

10. A DNA probe consisting essentially of a radionuclide bonded to the DNA sequence of claim 1.

11. A hybrid duplex molecule consisting essentially of the DNA sequence of claim 1 hydrogen bonded to a nucleotide sequence of complementary base sequence.

12. Hybrid duplex molecule as claimed in claim 9, wherein said nucleotide sequence is a DNA sequence.

13. Hybrid duplex molecule as claimed in claim 9, wherein said nucleotide sequence is a RNA sequence.

14. Hybrid duplex molecule as claimed in claim 9, wherein a radionuclide label is bonded to said DNA sequence.

15. A polypeptide comprising an amino acid sequence of hap protein, wherein the polypeptide contains the amino acid sequence

MetPheAspCysMetAspValLeuSerValSerProGlyGlnIleLeuAspPheTyrThrAla
SerProSerSerCysMetLeuGlnGluLysAlaLeuLysAlaCysPheSerGlyLeuThrGln
ThrGluTrpGlnHisArgHisThrAlaGlnSerIleGluThrGlnSerThrSerSerGluGlu
LeuValProSerProProSerProLeuProProProArgValTyrLysProCysPheValCys
GlnAspLysSerSerGlyTyrHisTyrGlyValSerAlaCysGluGlyCysLysGlyPhePhe
ArgArgSerIleGlnLysAsnMetIleTyrThrCysHisArgAspLysAsnCysValIleAsn
LysValThrArgAsnArgCysGlnTyrCysArgLeuGlnLysCysPheGluValGlyMetSer
LysGluSerValArgAsnAspArgAsnLysLysLysLysGluThrSerLysGlnGluCysThr
GluSerTyrGluMetThrAlaGluLeuAspAspLeuThrGluLysIleArgLysAlaHisGln
GluThrPheProSerLeuCysGlnLeuGlyLysTyrThrThrAsnSerSerAlaAspHisArg

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FARABOW, GARRETT
& DUNNER
1775 K STREET, N. W.
WASHINGTON, D. C. 20006
(202) 293-6850

CCCATGC

GAGCTGTTTGAAGGACTGGGATGCCGAGAACGCGAGCGATCCGAGCAGGGTTTGTCTGGGCACCGT

ATGTTTGACTGTATGGATGTTCTGTCAGTGAGTCCTGGGCAAATCCTGATTCTACACTGCGAGTCC

GTCTTCCTGCATGCTCCAGGAGAAAGCTCTCAAAGCATGCTTCAGTGGATTGACCCAAACCGAATG

GCAGCATCGGCACACTGCTCAATCAATTGAAACACAGAGCACCAGCTCTGAGGAACTCGTCCCAAG

CCCCCCATCTCCACTTCCTCCCCCTCGAGTGATCAAACCCTGCTTCGTCTGCCAGGACAAATCATC

AGGGTACCACTATGGGGTCAGCGCCTGTGAGGGATGAAGGGCTTTTTCCGCAGAAGTATTCAGAAG

AATATGATTTACACTTGTCACCGAGATAAGAACTGTGTTATTAATAAAGTCACCAGGAATCGATGC

CAATACTGTCGACTCCAGAAGTGCTTTGAAGTGGGAATGTCCAAAGAATCTGTCAGGAATGACAGG

AACAAGAAAAAGAAGGAGACTTCGAAGCAAGAATGCACAGAGAGCTATGAAATGACAGCTGAGTTG

GACGATCTCACAGAGAAGATCCGAAAAGCTCACCAGGAAACTTTCCCTTCACTCTCGCAGCTGGGT

AAATACACCACGAATTCCAGTGCTGACCATCGAGTCCGACTGGACCTGGGCCTCTGGGACAAATTC

AGTGAACTGGCCACCAAGTGCATTATTAAGATCGTGGAGTTTGCTAAACGTCTGCCTGGTTTCACT

GGCTTGACCATCGCAGACCAAATTACCCTGCTGAAGGCCGCCTGCCTGGACATCCTGATTCTTAGA

ATTTGCACCAGGTATACCCCAGAACAAGACACCATGACTTTCTCAGACGGCCTTACCCTAAATCGA

ACTCAGATGCACAATGCTGGATTTGGTCCTCTGACTGACCTTGTGTTCACCTTTGCCAACCAGCTC

CTGCCTTTGGAAATGGATGACACAGAAACAGGCCTTCTCAGTGCCATCTGCTTAATCTGTGGAGAC

CGCCAGGACCTTGAGGAACCGACAAAAGTAGATAAGCTACAAGAACCATTGCTGGAAGCACTAAAA

ATTTATATCAGAAAAAGACGACCCAGCAAGCCTCACATGTTTCCAAAGATCTTAATGAAAATCACA

GATCTCCGTAGCATCAGTGCTAAAGGTGCAGAGCGTGTAATTACCTTGAAAATGGAAATTCCTGGA

TCAATGCCACCTCTCATTCAAGAAATGATGGAGAATTCTGAAGGACATGAACCCTTGACCCCAAGT

TCAAGTGGGAACACAGCAGAGCACAGTCCTAGCATCTCACCCAGCTCAGTGGAAAACAGTGGGGTC

AGTCAGTCACCACTCGTGCAATAA,

and serotypic variants thereof, wherein said DNA is in a purified form.

39. DNA sequence as claimed in claim 38, which is free of human serum proteins, viral proteins, and nucleotide sequences encoding said proteins.

40. DNA sequence as claimed in claim 1, which is free of human tissue.

41. A DNA probe consisting essentially of a radionuclide bonded to the DNA sequence of claim 38.

42. A hybrid duplex molecule consisting essentially of the DNA sequence of claim 38 hydrogen bonded to a nucleotide sequence of complementary base sequence.

43. Hybrid duplex molecule as claimed in claim 11, wherein said nucleotide sequence is a DNA sequence.